Amendments to the Drawings:

The attached sheet of drawings includes a change to Figure 6. Item "12" of Figure 6 has been changed to read "12a" on the replacement sheet. This sheet, which includes Figure 6, replaces the original sheet including Figure 6.

Attachment: Replacement Sheet

REMARKS

This Preliminary Amendment cancels, without prejudice, claims 1 to 33 in the underlying PCT Application No. PCT/EP2004/009834 and adds new claims 34 to 68. The new claims, *inter alia*, conform the claims to U.S. Patent and Trademark Office rules and do not add any new matter to the application.

The drawing containing Figures 3 and 6 has been amended. Item 12 of Figure 6 of the of the original drawings has been amended to read "12a" in the Replacement Sheet. The number 12 was mistakenly used to identify two separate elements, one in Figure 3 and one in Figure 6. Accordingly, the element in Figure 6 has been properly distinguished as a separate element by the designation of "12a" in the Replacement Sheet. No new matter has been added.

In accordance with 37 C.F.R. § 1.121(b)(3), the Substitute Specification (including the Abstract, but without the claims) contains no new matter. The amendments reflected in the Substitute Specification (including Abstract) are to conform the Specification and Abstract to U.S. Patent and Trademark Office rules or to correct informalities. As required by 37 C.F.R. §§ 1.121(b)(3)(ii) and 1.125(c), a Marked Up Version of the Substitute Specification comparing the Specification of record and the Substitute Specification also accompanies this Preliminary Amendment. Approval and entry of the Substitute Specification (including Abstract) is respectfully requested.

The underlying PCT Application No. PCT/EP2004/009834 includes an International Search Report, mailed on March 30, 2005, a copy of which is included. The Search Report includes a list of documents that were considered by the Examiner in the

underlying PCT application, each of which is enclosed herewith along with an accompanying information disclosure statement.

It is respectfully submitted that the subject matter of the present application is new, non-obvious and useful. Prompt consideration and allowance of the application are respectfully requested.

Respectfully submitted,
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Dated: April 3, 2006

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Attachments

~~Port system~~[2565/145]

PORT SYSTEM

Field of Invention

The invention relates to a port system which is implanted to provide access to a remotely situated site of action to which an active substance is to make its way. The port system has a subcutaneously implantable housing in which is arranged a chamber for receiving the active substance. The chamber in the port is closed off by a piercable membrane which is situated below the skin. For ~~the~~ injection of the active substance, the skin and the membrane are pierced by a needle and the active substance is injected into the chamber. From the chamber, the active substance then makes its way to the site of action via ~~the~~a catheter.

Background of the Invention

The present invention offers many advantages over previous port systems. DE 41 29 782 C1 describes a port system ~~which~~that comprises a port and a catheter. The port has a housing ~~which has~~with an opening at the bottom to receive the active substance and an opening at the top to receive the membrane. The membrane is held in the opening by a clamping ring which exerts a pressure on the membrane~~,~~ so that the membrane curves outwards. ~~It is a disadvantage that the membrane is made difficult to fit~~The use of a clamping ring is disadvantageous because it makes it difficult to secure the membrane over the opening. For example, in an adhesive-bonded or welded connection, it is necessary for the clamping ring, which is under pressure, to be held in position~~. When for example the clamping ring is to be bonded on, it has to be held~~ against the housing until ~~such time as~~ the adhesive has cured.

For the connection of the catheter, the known port has a tapering connecting piece ~~which~~that is in fluid connection with the central opening in the housing. The catheter is pushed onto the tapering connecting piece. The catheter is fixed to the connecting piece by means of a clamping sleeve which is screwed to the housing. A coupling of this kind for flexible lines is described in detail in DE 41 29 781 A1. It is a disadvantage that, once the clamping sleeve has been fitted, it cannot be seen how far the catheter has been pushed onto the tapering connecting piece. ~~However~~Further, if ~~it is~~ not properly fitted, there is a risk ~~of~~ the flexible catheter ~~coming~~will come loose from the connecting piece. ~~It~~Still further, it is ~~also~~ a

disadvantage that~~, being a separate item,~~ the clamping sleeve is a separate component and can easily be lost. ~~This makes handling more difficult.~~

When an active substance is ~~being~~ injected with a needle, care ~~has to~~must be taken to ~~see~~ensure that the membrane situated beneath the skin is accurately targeted. If ~~however~~ the needle impacts ~~not on~~the housing, instead of the membrane ~~but on the housing~~, there is a ~~danger that~~possibility the needle will slip off the housing and ~~will injure~~strike the catheter ~~emerging from the housing~~.

Summary of the Invention

~~The~~An object ~~underlying~~of the invention is to provide a port for a catheter ~~which~~that can ~~easily~~ be assembled ~~without any costly or complicated assembly work. The object of the invention is, in particular, to provide~~simply and inexpensively. In accordance with this objective, the invention provides a port ~~which~~that allows the membrane to be easily fixed ~~in~~into place ~~easily~~ in the housing and ~~which allows~~ the catheter to be easily fixed ~~easily~~ to the connecting piece.

A further object of the invention is to ~~provide a port for a catheter in which~~reduce the risk of the catheter being injured when an active substance is ~~being~~ injected ~~is reduced~~into the port.

~~These objects are achieved, in accordance with the invention, by virtue of the features of claims 1, 15 and 29. Advantageous embodiments form the subject of the dependent claims.~~

~~The port according to~~In an embodiment of the invention ~~for a catheter has~~, the port may have two clamping jaws, with clamping faces, for the fixing of the catheter to the connecting piece~~, two~~. The clamping jaws ~~which are~~may be connected to the housing and ~~which have clamping faces which are~~ situated opposite one another. The clamping jaws can be moved from a first position, in which they are spaced away from the housing laterally, to a second position in which they fix the catheter in place between their clamping faces by a clamping action. The clamping jaws, when they are spaced away from the housing laterally, have the advantage that they do not obstruct the view when the catheter is being pushed onto the connecting piece. Hence the seating of the catheter on the connecting piece can be checked. It is also advantageous that the doctor is not obstructed by the clamping jaws when pushing on the catheter. To fix the catheter to the connecting piece, the clamping jaws merely need to be moved to the second position. Handling is simplified in this way.

In ~~a preferred~~an embodiment of the invention, the clamping jaws ~~are~~may be fastened to the housing by fastening arms ~~of~~having a resilient form. It is advantageous ~~on the one hand~~ that the clamping jaws are securely fastened to the housing by the resilient fastening arms and ~~on the other hand that the said jaws~~ are easy to move. It is also advantageous that the resilient fastening arms do not make it necessary for complicated fastening techniques to be employed. ~~Basically however, the~~The clamping jaws may also be fastened to the housing by means of joints or sliders.

In ~~a further preferred~~an embodiment of the invention, the fastening arms may form a clasp which fits round the sides of the housing and which ~~is fastened~~fasten to the housing at the opposite end from the connecting piece. This further simplifies the ~~complicatedness of the~~ structure. The fastening arms in the form of a clasp may be produced as a separate item, ~~such as an~~e.g., through injection moulding ~~for example~~, and may be connected to the housing at a later stage. It is, however, equally possible for the clasp to be produced together with housing. The fastening of the clasp to the end of the housing opposite ~~from~~ the connecting piece makes it possible for the clamping jaws to have a relatively large range of movement. Consequently, the clamping jaws may be spaced a relatively long distance away from the housing laterally in the first position, thus creating a clear space which is as large as possible in the region of the connecting piece.

In ~~a further preferred~~an embodiment of the invention, provision ~~is~~may be made for the clamping jaws to be locked to the housing by latching in the second position. Because the clamping jaws have a secure grip on the housing, it is ensured that the connection will not come loose.

~~The~~In an embodiment of the invention, the housing ~~advantageously has~~may have lateral guide grooves in which the clamping jaws are guided. This ensures that, although the clamping jaws are able to be spaced away laterally, they do nevertheless have a ~~sufficiently good~~ grip on the housing.

~~For~~In an embodiment of the invention, the clamping jaws ~~to~~may be secured to the housing by latching~~, steps are advantageously~~. Steps may be formed in the guide grooves~~,~~ and the clamping jaws ~~having~~may have latching hooks. Additional fixing may be obtained by giving the clamping jaws spigots and holes which are associated with one another. When the clamping jaws are pressed together, the spigots engage in the holes, thus producing an ~~interengaged~~engaged connection.

~~Assembly~~In an embodiment of the invention, assembly of the port ~~is~~may be further facilitated by virtue of the ~~fact that the~~ chamber ~~is~~being formed in an insert element, which ~~is~~may be locked in an opening in the housing, with the membrane interposed and clamped~~, in~~ such ~~a way~~ that the insert element exerts an applying pressure on the membrane. The insert element thus not only forms the chamber for the active substance but also represents an assembling part by which the membrane is fixed in place under pressure. Once the membrane has been fixed in place, both the insert element and the membrane may be welded or adhesive-bonded to the housing. ~~The crucial advantage is~~It is advantageous that the membrane can be preloaded without any additional clamping device.

In ~~a preferred~~an embodiment of the invention, the insert element and the housing may form a bayonet connection. The bayonet connection enables the insert element to be locked easily ~~but~~and securely in the housing. ~~Basically however, any other way of connecting~~Other methods, such as screwing the insert element ~~and housing is also possible. The~~to the housing, may also be employed.

In an embodiment of the invention, the insert element may ~~for example equally well be screwed to the housing. The insert element advantageously has~~have a projecting step and the opening in the housing ~~has~~may have a groove ~~having~~with a lateral undercut, in which ~~undercut the projecting step on~~ the insert element seats ~~when the latter is locked in the housing~~.

In ~~a preferred~~an embodiment of the invention, the insert element ~~is~~may be held securely ~~held~~ in the housing by virtue of the fact that the connecting piece is a canula which is inserted in mutually aligning holes in the housing and the insert element. The canula ~~thus~~thereby stops the insert element from twisting in the housing, and the projecting step is thus securely seated in the lateral undercut. It is also advantageous that the canula, insert element and housing are held in position with a slight clamping action when they are being adhesive-bonded.

~~A~~In an embodiment of the invention, a seal ~~is preferably~~may be obtained by pressing adhesive into the gap between the insert element, membrane and housing. The adhesive may be injected into the groove in the housing. To also simplify the bonding of the canula too, channels which start from the groove and run to the mutually aligning holes in the housing and the insert element may be provided in the wall of the insert element.

~~The~~In an embodiment of the invention, the undercut and the mutually aligning holes in the housing and the insert element ~~are advantageously~~may be arranged diametrically opposite

one another, ~~which simplifies~~thereby simplifying the removal of the ~~workpieces~~work pieces from the mould at the time of manufacture.

~~The~~In an embodiment of the invention, the risk of the catheter being injured by the injection needle ~~is~~may be avoided by providing a projecting step on the upper side of the port between the membrane and the connecting piece. If the injection needle impacts ~~not on the membrane but~~ on the housing instead of the membrane, the projecting step stops the needle from slipping off the port and piercing the catheter.

In ~~a preferred~~an embodiment of the invention, the projecting step is formed on the clamping jaws, which fit firmly ~~round~~around the catheter pushed onto the connecting piece. The clamping jaws thus serve not only to fix the catheter in place but also to protect it.

~~An embodiment of the invention is elucidated in detail below by reference to the drawings. In the drawings:~~

Brief Description of the Drawings

Fig. 1 is a view ~~from above~~ of ~~one embodiment of~~ the port from above, showing the clamping ~~jaws, for fixing the catheter connected to the housing in place by clamping,~~ jaws resting against the housing~~;~~.

Fig. 2 ~~shows~~ is a view of the port ~~of Fig. 1~~ from below~~;~~, showing the clamping jaws resting against the housing.

Fig. 3 is an exploded view of the port from below, with the clamping jaws spaced away from the housing~~;~~.

Fig. 4 is ~~an~~a second exploded view of the port from below, from a different direction~~;~~ than Fig. 3, with the clamping jaws spaced away~~;~~ from the housing.

Fig. 5 is a view of the port from above, with the clamping jaws spaced away~~, and~~ from the housing.

Fig. 6 is a ~~section through the insert element having the chamber for receiving the active substance~~cross sectional view of the insert element.

Detailed Description

In the following, embodiment examples of the apparatus in accordance with the invention are explained in more detail by reference to the drawings.

Fig. 1 is an enlarged view from above of the port-catheter, which comprises a port 1 and a catheter 38. The port 1, which may be approximately the size of a fingertip~~,~~ and has a shallow housing 2 ~~which~~that is implanted subcutaneously. The upper side, which lies under the skin~~,~~ of the housing ~~1~~2~~,~~ is identified by reference numeral 3, its underside by reference numeral 4, its front end by reference numeral 5, its rear end by reference numeral 6 and its longitudinal sides by reference numerals 7 and 8. The longitudinal sides ~~7, 8~~7 and 8~~,~~ of the housing ~~1~~2~~,~~ run to the front end 5 of the housing at a shallow angle. The housing 2 is thus shaped like a computer mouse.

The housing 2 may~~,~~ for example~~,~~ be produced from plastics material ~~as an~~by injection moulding. ~~Basically however, it~~It may ~~equally well~~also be composed of other compatible materials such as ~~metal or ceramic material, for example. It~~metals or ceramics. Housing 2 has a central cylindrical opening 9 (Fig. 3) which is closed off by a circular piercable membrane (septum) 10. The membrane 10, which is inserted in the opening 9 and which is of a diameter ~~which~~that approximately corresponds to ~~that of the~~ opening~~,~~ 9~~,~~ is supported against an abutment (not shown) which extends ~~round~~around at the top end of the opening~~.~~ 9. The upper side of the membrane 10 is exposed at the upper side of the housing~~, thus~~ 2~~,~~ thereby enabling it to be pierced by an injection needle.

A cylindrical insert element 11 is inserted in the central opening 9 in the housing 2 as a good fit (Fig. 2)~~. Formed~~, i.e., a secure tight fit. A cylindrical chamber 12a is formed in the insert element 11 ~~is a cylindrical chamber 12~~ to receive the active substance to be administered (Fig. 6).

It is an advantage that the insert element 11 can be produced, independently of the housing 2, from different compatible materials~~,~~ such ~~for example~~ as plastics ~~material or metal, and particularly titanium, or ceramic material~~or metals, without the entire port having to be altered. For example, insert element 11 may be made from titanium or ceramic material. This is an important consideration particularly when~~, for example,~~ the insert element ~~may come~~comes into contact with blood taken in via the catheter~~,~~ because ~~the~~ different materials have different levels of acceptability with regard to compatibility with blood.

The insert element 11 forms, with the housing 2, a bayonet connection. For this purpose, the insert element 11 has a projecting cylindrical step 12 and the opening 9 has a axial groove 13 in its wall into which the step 13 can be pushed as a good fit. To lock the step 12, the groove

13 has a lateral undercut 13 in which the step 12 engages ~~on~~when the insert element 11 ~~being~~is twisted (Fig. 4). The bayonet connection is ~~so~~ designed so that the insert element 11 exerts an adequate applying pressure on the membrane 10 for the membrane 10 to curve outwards.

At the rear end 6, the housing 2 has a hole 15, which aligns with a hole 16 of the same diameter in the cylindrical wall of the insert element 11 when the insert element 11 has been inserted in the housing 2 and locked by twisting. The holes 15 and 16 in the housing 2 and in the insert element 11 are situated diametrically opposite the undercut 14, the groove 13 being offset sideways for this purpose. Advantages for production arise from this arrangement at the time of removal from the mould.

Mounted in the mutually aligning holes ~~15, 16~~15 and 16, in the insert element 11 and the housing ~~2~~2, is a tubular canula 17 whose projecting end portion forms the connecting piece 18 of the port 1 onto which the end portion of the catheter 38 is pushed. The end of the connecting piece 18 preferably tapers on the outside. The canula 17 which extends through the two holes ~~15,~~15 and 16 not only creates a fluid connection between the chamber 12a and the connecting piece 18 but also ~~as it were~~ acts to secure the insert element 11 against twisting. ~~This has the following advantages at the time of assembly.~~

For assembly, the insert element 11 is inserted and locked in the opening 9 in the housing~~.~~ 2. ~~Thus~~This can be done with a suitable tool which has projections ~~which engages~~that engage in holes 40 in the insert element 11. The canula 17 is then pushed into the ~~hole 15,~~holes 15 and 16. Adhesive is ~~now~~then pressed into the groove 13 and distributes itself evenly via circular channels (not shown) which are provided in the wall of the opening 9 in the housing~~,~~ 2, thus causing the adhesive to completely fill the gap between the insert element 11, membrane 10, canula 17 and housing ~~1.~~2. The insert element~~,~~ 11, the membrane 10 and the canula 17 are thus sealed to the housing~~.~~ 2. Additional clamping devices and the like are not required during the curing of the adhesive because the insert element 11 inserted in the opening 9 is fixed in place by means of the bayonet connection and the canula ~~7.~~17.

~~To fix the catheter 38~~Catheter 38, which is pushed onto the connecting piece ~~18~~18, is fixed in place ~~by clamping, the~~on port ~~has~~1 by two clamping jaws ~~19, 20 which~~19 and 20. The two clamping jaws 19 and 20 have respective clamping faces ~~21,~~21 and 22 corresponding to the diameter of the canula~~.~~ 17. The two clamping jaws ~~19,~~19 and 20 are movable between a first position~~, which is~~ (shown in Figs. 3 to ~~5,~~5) and a second position (shown in Figs. 1 and 2). In the second position, the clamping jaws 19 and 20 fit firmly ~~round~~around the catheter 38 so that the catheter 38 is securely mounted on the connecting piece 18. In the first position, on

the other hand, the clamping jaws ~~19,~~19 and 20 are spaced away from the housing laterally so that ~~on the one hand~~ there is enough free space for the catheter 38 to be pushed onto the connecting piece 18 and ~~on the other hand~~ a visual check can be made ~~on~~of the catheter 38 when it is pushed onto the connecting piece~~.~~ 18.

The clamping jaws ~~19,~~19 and 20 are fastened to the housing ~~1~~2 by respective fastening arms ~~27, 28~~27 and 28, which are of a resilient form. The fastening arms ~~27,~~27 and 28 form a U-shaped clasp ~~29~~29, which is seated in guide grooves 30 extending at the front end 5 and along the longitudinal sides ~~7,~~7 and 8 of the housing ~~1.~~2. By its arcuate central portion 31, the clasp 29 is fastened ~~only~~ to the front end 5 of the housing~~,~~ 2, thus allowing the lateral portions of the clasp 29 to splay outwards.

On their insides, the clamping jaws ~~19,~~19 and 20 have respective latching hooks ~~32,~~32 and 33 ~~which~~that slide in the guide grooves 30 when the fastening arms ~~27,~~27 and 28 splay apart. The guide grooves 30 are each in two parts~~, of which one~~. One part 30a extends along the longitudinal ~~side 7,~~sides 7 and 8 of the housing 2 and the other part 30b extends along the rear end 6 of the housing~~.~~ 2. In the region of the transition between the two parts 30a~~,~~ and 30b, the guide grooves 30 form projecting steps ~~34,~~34 and 35. In the first position, in which the clamping jaws ~~19,~~19 and 20 are spaced away laterally, the inner faces of the latching hooks~~, 32,~~ 32 and 33 are supported against the steps ~~34,~~34 and 35.

In the parts 30b of the guide grooves 30 at the rear end 6 of the housing~~,~~ 2, there are formed respective steps ~~36,~~36 and 37 against which the latching hooks ~~32,~~32 and 33 are supported when the clamping jaws ~~19,~~19 and 20 are in the second position in which they fix the catheter 38 in place by clamping. Provided in the end face 23 of one clamping jaw 19 are holes 24, in which spigots ~~25~~25, which are provided on the end face 26 of the other clamping jaw ~~20~~20, engage. Clamping ridges ~~40,~~40 and 41 are also provided on the clamping faces ~~21,~~21 and 22.

The outline of the clasp 30 and the outline of the clamping jaws ~~19, 20~~19 and 20, having the latching hooks ~~32,~~32 and 33 match the outline of the guide grooves 30 and the outline of the housing~~, which means that~~ 2. This results in the clasp 30 and the ~~claming~~clamping jaws 19 and 20 and the housing ~~fit~~2 fitting together ~~well~~securely. Provided in the front end 5 of the housing 2 and in the clamping jaws 19 and 20 are fixing holes for a fabric ~~to allow~~. This allows the port ~~system~~1 to be sewn ~~on~~onto a physical location.

Provided on the upper side of the clamping jaws ~~19,~~19 and 20 between the membrane 10 and the connecting piece 18 is a projecting step 39 ~~which~~that stops an injection needle, which impacts on the housing 2, from slipping off the housing 2 and injuring the catheter~~.~~ 38. The

projection step 39 is in two parts 39a~~,~~ and 39b, each of which extends across the upper side of the relevant clamping jaw 19 and 20 substantially perpendicularly to the longitudinal axis of the connecting piece 18.

If the injection needle impacts on the upper sided of the housing 2 of the port 1 between the membrane 10 and the connecting piece 18, the needle might slip off in the direction of the connecting piece 18 and perforate the flexible catheter tube. This would make it necessary for the port ~~system~~1 to be replaced, which is a surgically complicated ~~business~~. If the perforation is not detected, there is also a risk of the active substance not making its way to the site of action or not doing so in sufficient quantity. The active substance may also emerge at the wrong site of action, i.e. at the perforation. The projecting step 39 is able to prevent this because the injection needle impacts on the housing 2 with a certain amount of force, and if it slips off in the direction of the connecting piece 18 it will be diverted sideways by the step 39 substantially perpendicularly to the connecting piece~~.~~ 18.

~~Patent Claims~~

~~1. Port for a catheter having,~~
~~a chamber (12) for receiving an active substances, which chamber (12) is arranged in a housing (2) and is closed off by a piercable membrane (10), a connecting piece (18) for connecting on the catheter, which connecting piece (18) is in fluid connection with the chamber, and~~
~~means for fixing the catheter to the connecting piece,~~
~~characterised in that the means for fixing the catheter to the connecting piece have two clamping jaws (19, 20) which are connected to the housing (2) and which have clamping faces (23, 24) which are situated opposite one another, the clamping jaws being movable from a first position, in which the clamping jaws are spaced away from the housing laterally , to a second position in which the clamping jaws fix the catheter in place between their clamping faces by a clamping action.~~

~~2. Port according to claim 1, characterised in that the clamping jaws (19, 20) are fastened to the housing (2) by fastening arms (27, 28) of a resilient form.~~

~~3. Port according to claim 2, characterised in that the fastening arms (27, 28) form a clasp (29) which fits round the sides of the housing (2) and which is fastened to the housing at the opposite end from the connecting piece (18).~~

~~4. Port according to one of claims 1 to 3, characterised in that the clamping jaws (19, 20) are secured to the housing (2) by latching in the second position.~~

~~5. Port according to one of claims 1 to 4, characterised in that the housing has guide grooves (30) in which the clamping jaws (19, 20) are guided.~~

~~6. Port according to claim 5, characterised in that steps (36, 37) are formed in the guide grooves (30), and the clamping jaws (19, 20) have latching hooks which, in the second position, are locked to the steps by latching.~~

~~7. Port according to one of claims 1 to 6, characterised in that the clamping jaws (19, 20) have spigots (25) and holes (25) which are associated with one another and which interengage in the second position.~~

~~8. Port according to one of claims 1 to 7, characterised in that the chamber (12) is formed in an insert element (11) which is locked in an opening (9) in the housing (2), with the membrane (10) interposed and clamped, in such a way that the insert element exerts an applying pressure on the membrane.~~

~~9. Port according to claim 8, characterised in that the insert element (11) and the housing (2) form a bayonet connection.~~

~~10. Port according to either claim 8 or 9, characterised in that the insert element (11) has a projecting step (12) and the opening (9) in the housing has a groove (13) having a lateral undercut (14), in which the projecting step on the insert element seats.~~

~~11. Port according to one of claims 8 to 10, characterised in that mutually aligning holes (15, 16) are provided in the housing (2) and the insert element (11), and the connecting piece (18) is a canula (17) which is inserted in the holes in the housing and the insert element.~~

~~12. Port according to claim 10 or 11, characterised in that the undercut (14) and the mutually aligning holes (15, 16) are arranged diametrically opposite one another.~~

~~13. Port according to one of claims 8 to 12, characterised in that the membrane (10) and/or the insert element (11) and/or the connecting piece (18) are adhesive-bonded to the housing (2).~~

~~14. Port according to one of claims 1 to 13, characterised in that the port is an injection moulding.~~

~~15. Port for a catheter having,~~
~~a chamber (12) for receiving an active substance, which chamber (12) is arranged in a housing (2) and is closed off by a pierceable membrane (10), and a connecting piece (18) for connecting on the catheter, which connecting piece (18) is in fluid connection with the chamber,~~
~~characterised in that the chamber (12) is formed in an insert element (11) which is locked in an opening in the housing, with the membrane (10) interposed and clamped, in such a way that the insert element exerts an applying pressure on the membrane.~~

~~16. Port according to claim15, characterised in that the insert element (11) and the housing (2) form a bayonet connection.~~

~~17. Port according to claim 15 or 16, characterised in that the insert element (11) has a projecting step (12) and the opening (9) in the housing has a groove (13) having a lateral undercut (14), in which undercut (14) the projecting step on the insert element seats.~~

~~18. Port according to one of claims 15 to 17, characterised in that mutually aligning holes (15, 16) are provided in the housing (2) and the insert element (11), and the connecting piece (18) is a canula (17) which is inserted in the holes in the housing and the insert element.~~

~~19. Port according to claim 18, characterised in that the undercut (14) and the mutually aligning holes (15, 16) are arranged diametrically opposite one another.~~

~~20. Port according to one of claims 15 to 19, characterised in that the membrane (10) and/or the insert element (11) and/or the connecting piece (18) are adhesive-bonded to the housing (2).~~

~~**21.** Port according to one of claims 15 to 20, characterised in that, for fixing the catheter to the connecting piece (18), two clamping jaws (19, 20) are provided which are connected to the housing (2) and which have clamping faces (23, 24) which are situated opposite one another, the clamping jaws being movable from a first position, in which the clamping jaws are spaced away from the housing laterally, to a second position in which the clamping jaws fix the catheter in place between their clamping faces by a clamping action.~~

~~**22.** Port according to claim 21, charaterised in that the clamping jaws (19, 20) are fastened to the housing (2) by fastening arms (27, 28) of a resilient form.~~

~~**23.** Port according to claim 21 or 22, charaterised in that the fastening arms (27, 28) form a clasp (29) which fits round the sides of the housing (2) and which is fastened to the housing at the opposite end from the connecting piece (18).~~

~~**24.** Port according to one of claims 21 to 23, charaterised in that the clamping jaws (19, 20) are secured to the housing (2) by latching in the second position.~~

~~**25.** Port according to one of claims 21 to 24, charaterised in that the housing has guide grooves (30) in which the clamping jaws (19, 20) are guided.~~

~~**26.** Port according to claim 25, charaterised in that steps (36, 37) are formed in the guide grooves (30), and the clamping jaws (19, 20) have latching hooks which , in the second position, are locked to the steps by latching.~~

~~**27.** Port according to one of claims 21 to 26, charaterised in that the clamping jaws (19, 20) have spigots (25) and holes (24) which are associated with one another and which interengage in the second position.~~

~~**28.** Port according to one of claims 15 to 27, charaterised in that the port is an injection moulding.~~

~~**29.** Port for a catheter having,~~
~~a chamber (12) for receiving an active substance, which chamber (12) is closed off by a pierceable membrane (10), and~~

~~a connecting piece (18) for connecting on the catheter, which connecting piece (18) is in fluid connection with the chamber, the port having an upper side at which the membrane is exposed and an underside opposite from the membrane,~~
~~charaterised in that a projecting step (39) is provided on the upper side of the port between the membrane (10) and the connecting piece (18).~~

~~**30.** Port according to claim 29, charaterised in that, for fixing in place the catheter which is to be connected to the connecting piece (18), two clamping jaws (19, 20) are provided which have clamping faces (23, 24) which are situated opposite one another, the clamping jaws being movable from a first position, in which the clamping jaws are spaced away from the housing laterally, to a second position in which the clamping jaws fix the catheter in place between their clamping faces by a clamping action.~~

~~**31.** Port according to claim 29 or 30, charaterised in that the projecting step (39)is formed on the clamping jaws (19, 20).~~

~~**32.** Port according to one of claims 29 to 31, charaterised in that the port is an injection moulding.~~

~~**33.** Port according to one of claims 29 to 32, charaterised in that the projecting step (39) is formed to be substantially perpendicular, so that an injection needle which impacts between the membrane (10) and the step will be diverted sideways away from the connecting piece (18).~~

Abstract

The invention relates an implantable access device for a catheter for supplying an active substance to an active site. The inventive access device comprises a chamber ~~(12)~~ which is arranged in a housing ~~(2)~~ for receiving ~~said~~the active substance and is closed with a piercable membrane ~~(10)~~. A connecting piece ~~(18)~~, to which the catheter is connectable, is fluidly connected to the chamber ~~(12)~~. The catheter is fixed by ~~means of two~~ clamps ~~(19, 20)which~~that are fixable to the housing ~~(1)~~ preferably by means of elastic fixing arms ~~(28, 29)~~. The chamber ~~(12)~~ receiving the active substance is embodied in an insertion element ~~(11) which~~that is arranged in ~~the~~a recess ~~(9)~~ of the housing by an intermediate clamping of the intermediate layer of the membrane ~~(10)~~ in such a way that the insertion element produces a pressure force to said membrane.